Jay
Good Evening,

2

KEEPING THE "OLD" WAY OF DOING THINGS WHILE TRYING TO APPLY THE "NEW" DOESN'T WORK!

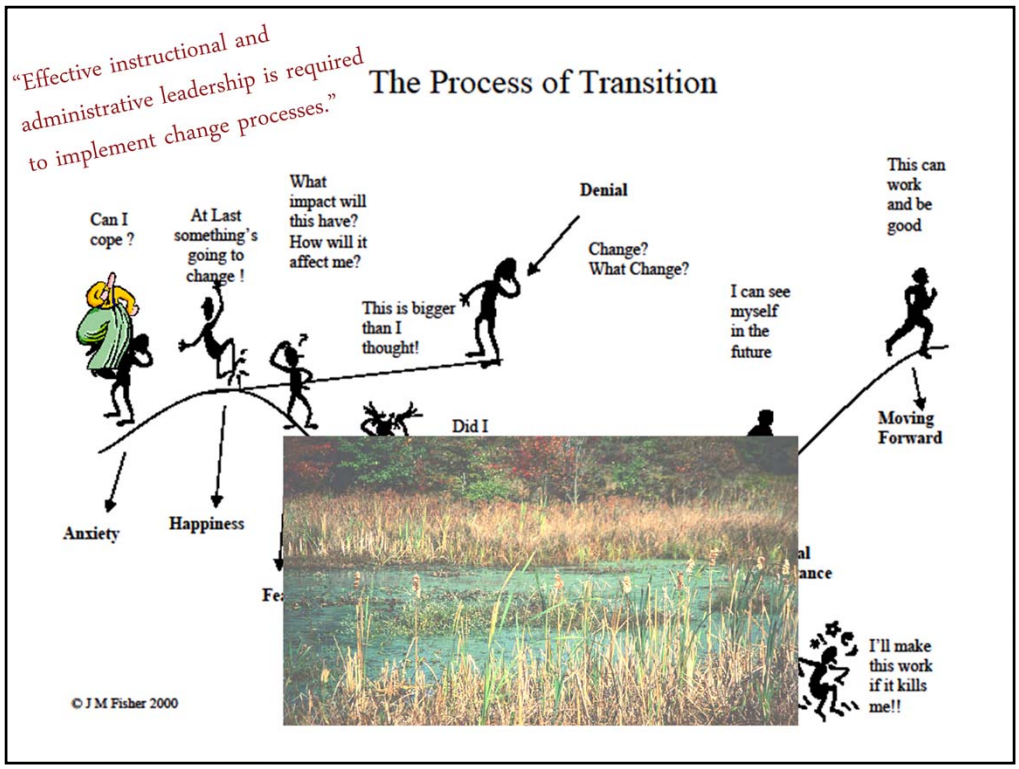
It requires a ***paradigm shift!***

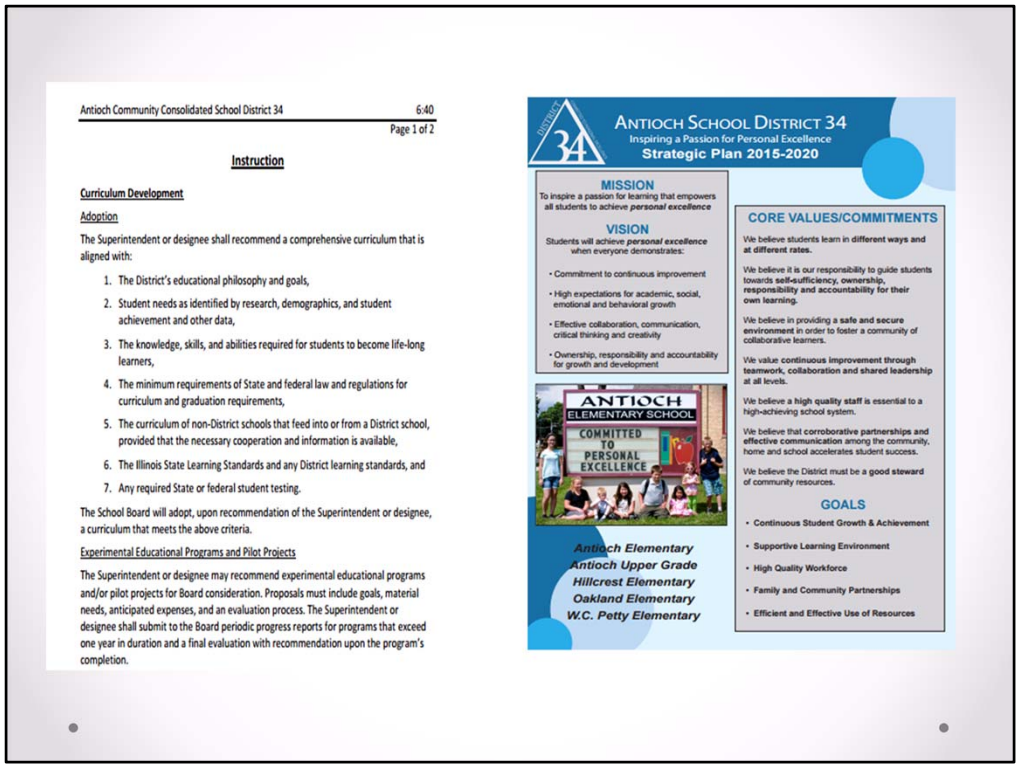
3


"If we resist change;
we'll fail,
If we accept change;
we'll survive,
If we create change;
we'll succeed."

There will be natural resistance to change, people who say it can’t be done this way.

"Effective instructional and administrative leadership is required to implement change processes."





Antioch Community Consolidated School District 34 6:40
Page 1 of 2

Instruction

Curriculum Development

Adoption

The Superintendent or designee shall recommend a comprehensive curriculum that is aligned with:

1. The District's educational philosophy and goals,
2. Student needs as identified by research, demographics, and student achievement and other data,
3. The knowledge, skills, and abilities required for students to become life-long learners,
4. The minimum requirements of State and federal law and regulations for curriculum and graduation requirements,
5. The curriculum of non-District schools that feed into or from a District school, provided that the necessary cooperation and information is available,
6. The Illinois State Learning Standards and any District learning standards, and
7. Any required State or federal student testing.

The School Board will adopt, upon recommendation of the Superintendent or designee, a curriculum that meets the above criteria.

Experimental Educational Programs and Pilot Projects

The Superintendent or designee may recommend experimental educational programs and/or pilot projects for Board consideration. Proposals must include goals, material needs, anticipated expenses, and an evaluation process. The Superintendent or designee shall submit to the Board periodic progress reports for programs that exceed one year in duration and a final evaluation with recommendation upon the program's completion.

ANTIOCH SCHOOL DISTRICT 34
Inspiring a Passion for Personal Excellence
Strategic Plan 2015-2020

MISSION
To inspire a passion for learning that empowers all students to achieve *personal excellence*

VISION
Students will achieve *personal excellence* when everyone demonstrates:

- Commitment to continuous improvement
- High expectations for academic, social, emotional and behavioral growth
- Effective collaboration, communication, critical thinking and creativity
- Ownership, responsibility and accountability for growth and development

ANTIOCH ELEMENTARY SCHOOL
COMMITTED TO PERSONAL EXCELLENCE

Antioch Elementary
Antioch Upper Grade
Hillcrest Elementary
Oakland Elementary
W.C. Petty Elementary

CORE VALUES/COMMITMENTS

We believe students learn in **different ways and at different rates.**

We believe it is our responsibility to guide students towards **self-sufficiency, ownership, responsibility and accountability for their own learning.**

We believe in providing a **safe and secure environment** in order to foster a community of collaborative learners.

We value **continuous improvement through teamwork, collaboration and shared leadership at all levels.**

We believe a **high quality staff** is essential to a high-achieving school system.

We believe that **corroborative partnerships and effective communication** among the community, home and school accelerates student success.

We believe the District must be a **good steward** of community resources.

GOALS

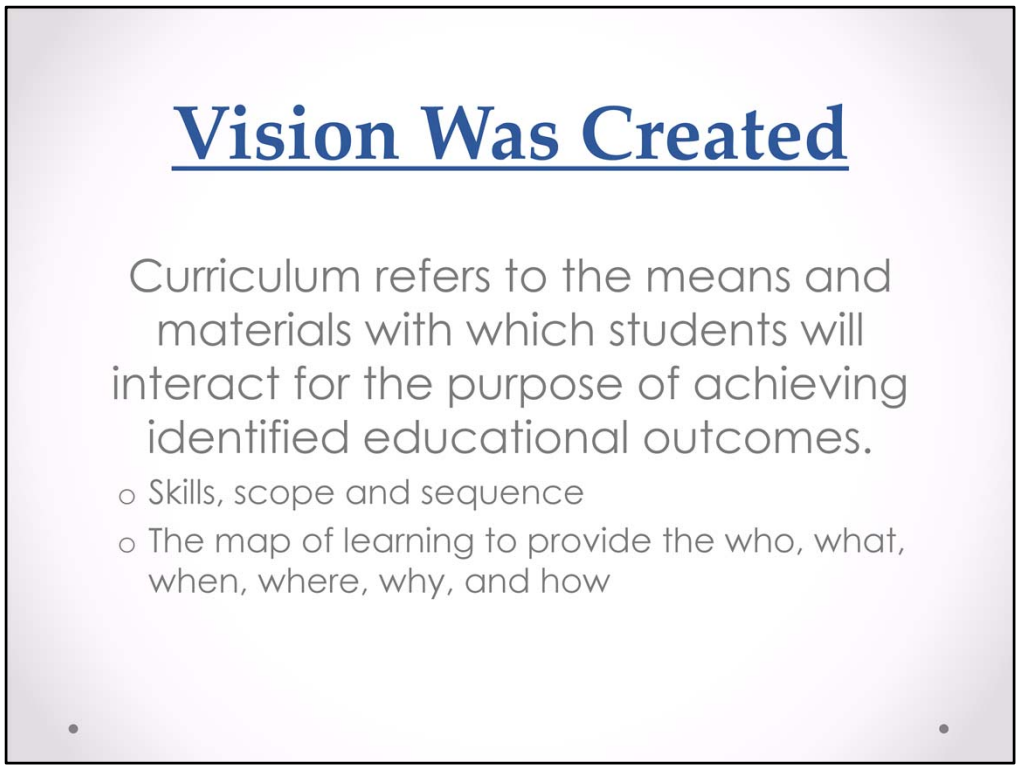
- **Continuous Student Growth & Achievement**
- **Supportive Learning Environment**
- **High Quality Workforce**
- **Family and Community Partnerships**
- **Efficient and Effective Use of Resources**

MISSION - To inspire a passion for learning that empowers all students to achieve personal excellence

VISION - Students will achieve personal excellence when everyone demonstrates: • Commitment to continuous improvement • High expectations for academic, social, emotional and behavioral growth • Effective collaboration, communication, critical thinking and creativity • Ownership, responsibility and accountability for growth and development

Board Policy 6:40
The Superintendent or designee shall recommend a comprehensive curriculum that is aligned with: 1. The District's educational philosophy and goals, 2. Student needs as identified by research, demographics, and student achievement and other data, 3. The knowledge, skills, and abilities required for students to become life-long learners, 4. The minimum requirements of State and Federal law and regulations for curriculum and graduation requirements, 5. The curriculum of non-District schools that feed into or from a District school, provided that the necessary cooperation and information is available, 6. The Illinois State Learning Standards and any District learning standards, and 7. Any required State or federal student testing.
The School Board will adopt, upon recommendation of the Superintendent or designee, a curriculum that meets the above criteria.

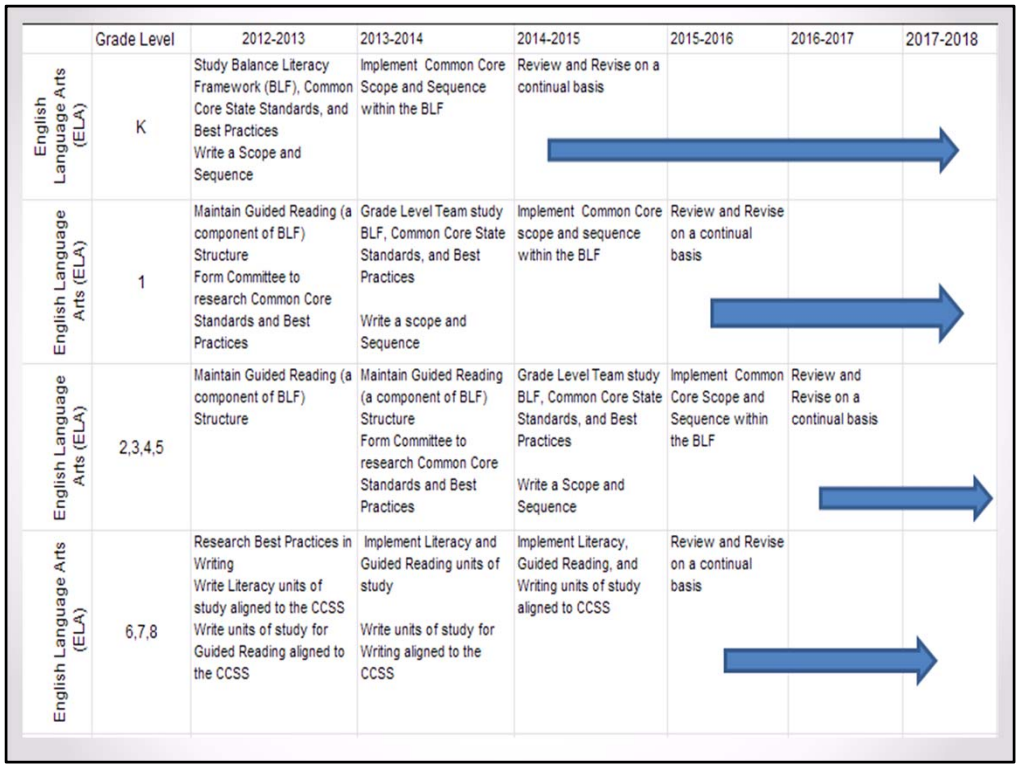
Jennifer
Reflecting back to how this process started. In 2012 when I came to Antioch the Board of Education had just published it's Strategic Plan and there was an emphasis on implementing a Common Core Aligned Curriculum.



An ELA and Math curriculum committee was formed.
Coaches and committee members created a definition of curriculum. This definition defined the work ahead. The first step was looking at the Common Core Standards and we created SPLASH documents, that unpacked the standards and turned them into I Can Statements. Then a curriculum cycle was created.


Who
District Administrators
Building Administrators
Teachers
General Ed
Special Ed
ELL
Gifted
Related Services
Instructional Coaches
District Wide Planning Committees
Grade Level Planning Team
Grade Level Work Team

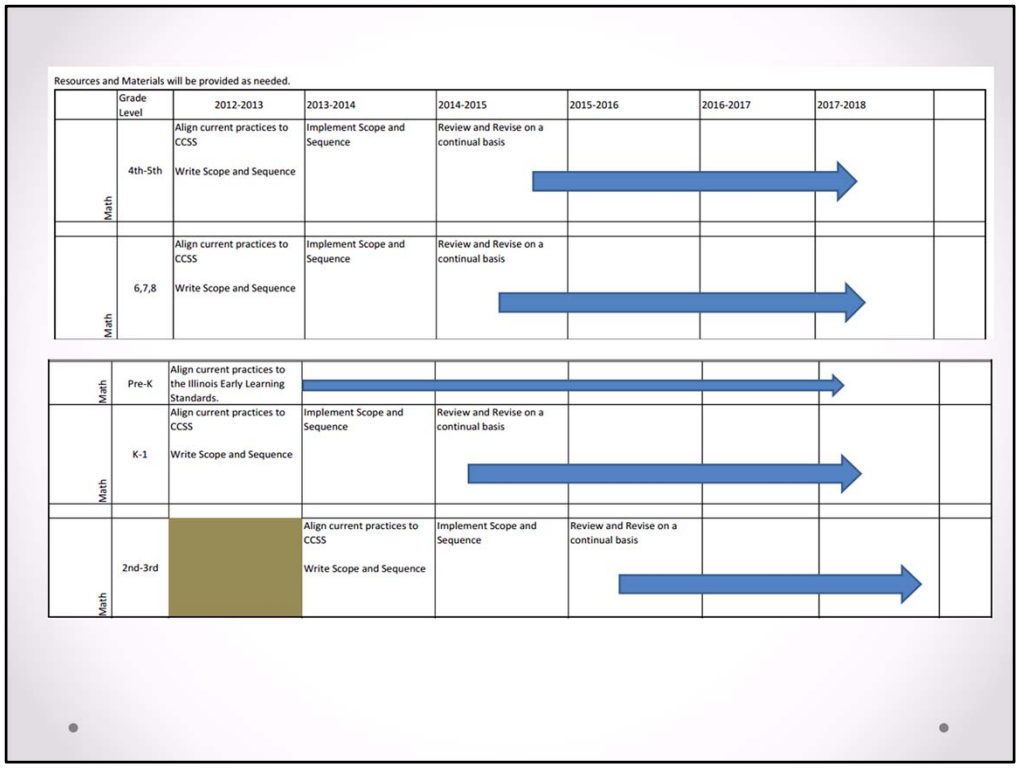
who



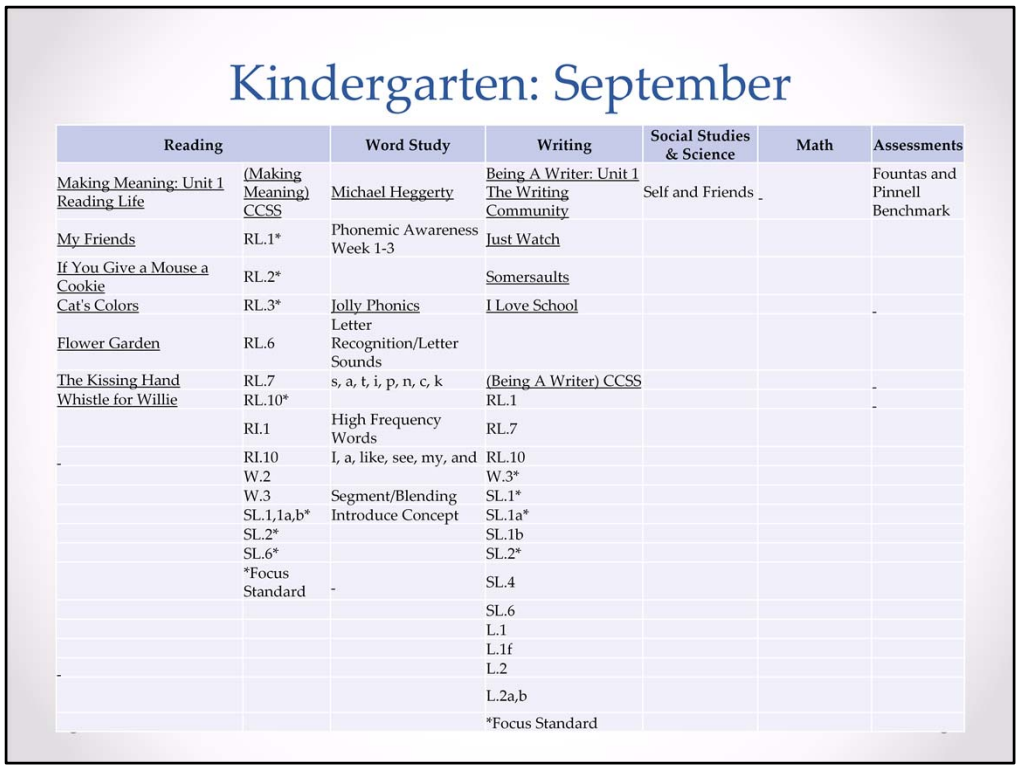
	Grade Level	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017	2017-2018
English Language Arts (ELA)	K	Study Balance Literacy Framework (BLF), Common Core State Standards, and Best Practices Write a Scope and Sequence	Implement Common Core Scope and Sequence within the BLF	Review and Revise on a continual basis			
English Language Arts (ELA)	1	Maintain Guided Reading (a component of BLF) Structure Form Committee to research Common Core Standards and Best Practices	Grade Level Team study BLF, Common Core State Standards, and Best Practices Write a scope and Sequence	Implement Common Core scope and sequence within the BLF	Review and Revise on a continual basis		
English Language Arts (ELA)	2,3,4,5	Maintain Guided Reading (a component of BLF) Structure	Maintain Guided Reading (a component of BLF) Structure Form Committee to research Common Core Standards and Best Practices	Grade Level Team study BLF, Common Core State Standards, and Best Practices Write a Scope and Sequence	Implement Common Core Scope and Sequence within the BLF	Review and Revise on a continual basis	
English Language Arts (ELA)	6,7,8	Research Best Practices in Writing Write Literacy units of study aligned to the CCSS Write units of study for Guided Reading aligned to the CCSS	Implement Literacy and Guided Reading units of study Write units of study for Writing aligned to the CCSS	Implement Literacy, Guided Reading, and Writing units of study aligned to CCSS	Review and Revise on a continual basis		

The teaching and learning work plan was Presented to the BOE December 2012. The work plan established our timeline and is posted on the teaching and learning website under the curriculum cycle tab.

The goal of the work was to implement Common Core Aligned curriculum and provide professional development to staff. We started with the work that was done in 2010 and built on that work with teacher teams.



The Math plan



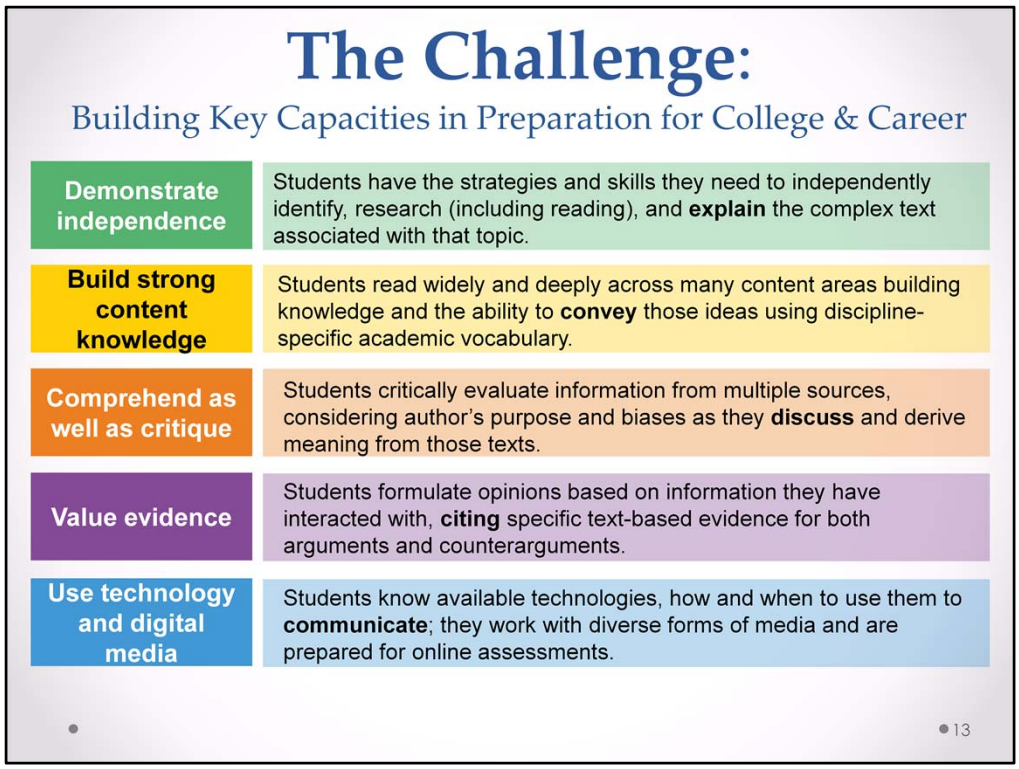
Kindergarten: September

Reading		Word Study	Writing	Social Studies & Science	Math	Assessments
Making Meaning: Unit 1 Reading Life	(Making Meaning) CCSS	Michael Heggerty	Being A Writer: Unit 1 The Writing Community	Self and Friends		Fountas and Pinnell Benchmark
My Friends	RL.1*	Phonemic Awareness Week 1-3	Just Watch			
If You Give a Mouse a Cookie	RL.2*		Somersaults			
Cat's Colors	RL.3*	Jolly Phonics	I Love School			
Flower Garden	RL.6	Letter Recognition/Letter Sounds				
The Kissing Hand	RL.7	s, a, t, i, p, n, c, k	(Being A Writer) CCSS			
Whistle for Willie	RL.10*		RL.1			
	RI.1	High Frequency Words	RL.7			
	RI.10	I, a, like, see, my, and	RL.10			
	W.2		W.3*			
	W.3	Segment/Blending	SL.1*			
	SL.1,1a,b*	Introduce Concept	SL.1a*			
	SL.2*		SL.1b			
	SL.6*		SL.2*			
	*Focus Standard		SL.4			
			SL.6			
			L.1			
			L.1f			
			L.2			
			L.2a,b			
			*Focus Standard			

We began our curriculum work in 2012 by bringing back documents that the district had started in 2010. Coaches brought this work to teachers during team times adding new resources and materials to the document. The 2010 work had the standards and resources in a month by month document. The coaches began adding in the new resources and organizing the resources in a UBD format. Jessica Hockett and Lake County ROE content specialists were brought in to consult with teachers and coaches to help establish Essential Questions and Key understandings and to begin providing professional development to teachers on understanding the standards and making them a part of the classroom instruction.

There were many challenges ahead as we began our curriculum work in 2012.

We started with everything we had and began aligning the materials with the standards working with grade level teams. This work for math started with taking Everyday Math and pulling it apart.



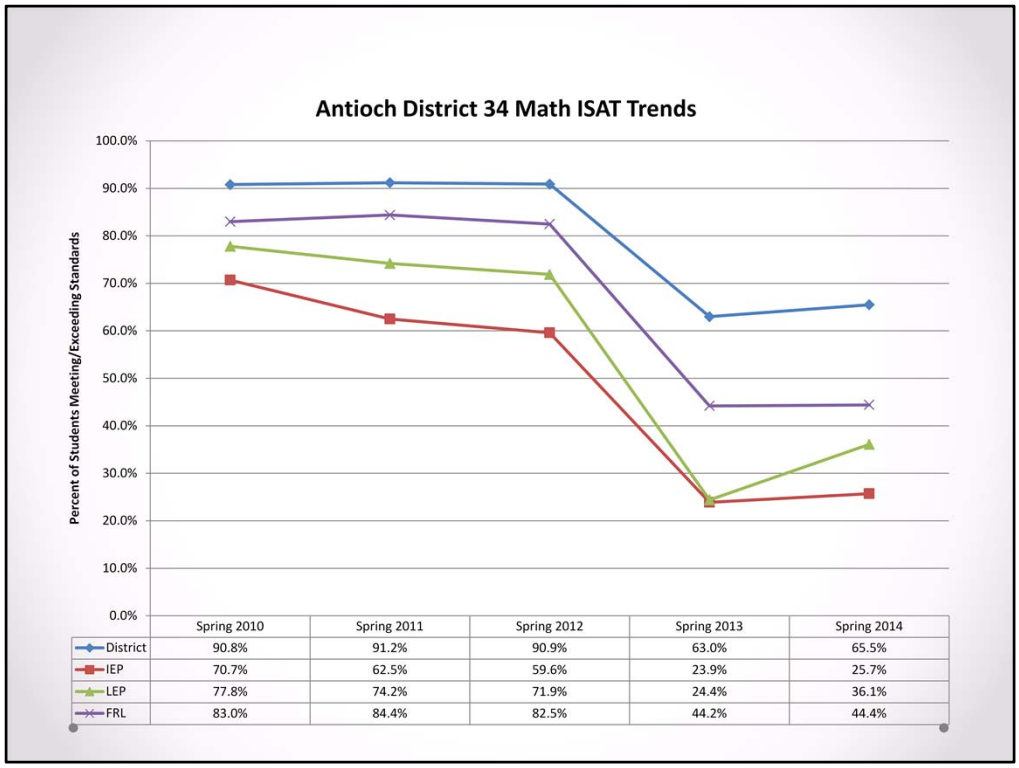
Governors, business leaders, and policy makers realized it was imperative to take action to raise the bar for U.S. students and ensure teachers were performing at a higher level. The Common Core standards are the results created from various research studies that were completed internationally to look at how U.S. students compared to the rest of the world.

Today's classroom environment requires an increased rigor to meet the demands of college and career readiness.

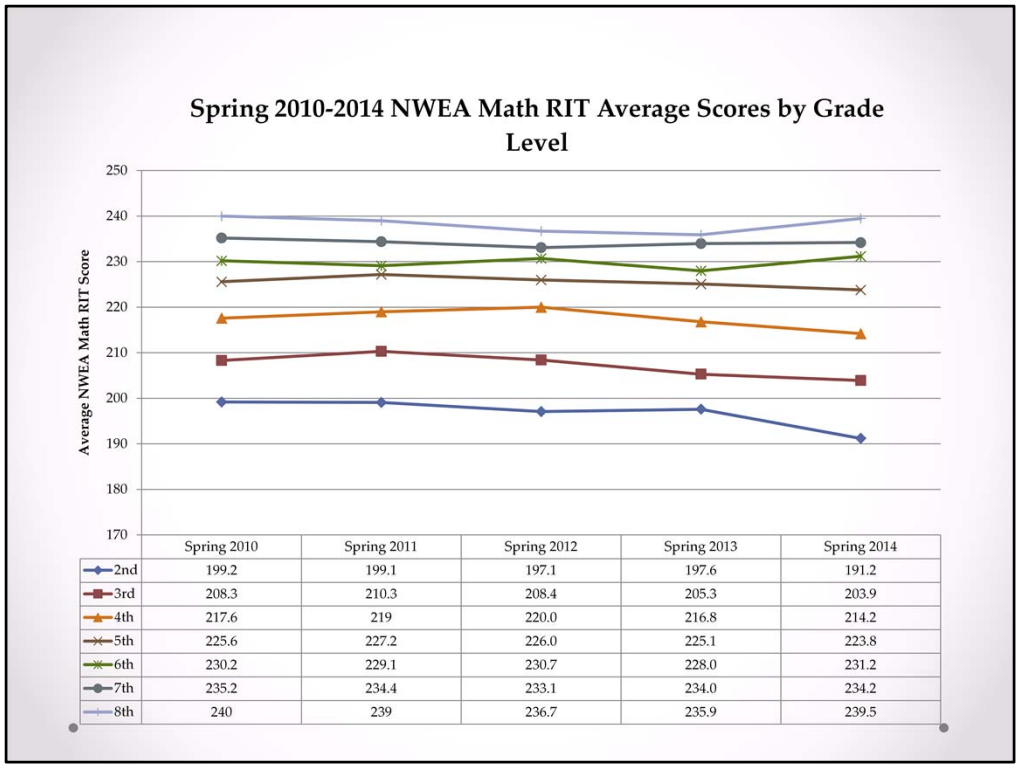
By the time students graduate from high school, students should be able to demonstrate the above Academic capacities (Click through each capacity and summarize the text on the screen).

Districts need to help students acquire this basic set of academic capacities which will help them succeed across the content areas.

WHAT THE DATA WAS TELLING US?



These are the data slides that were presented to the BOE last year. Please remember the dip in 2013 was from the change in ISAT cut scores.

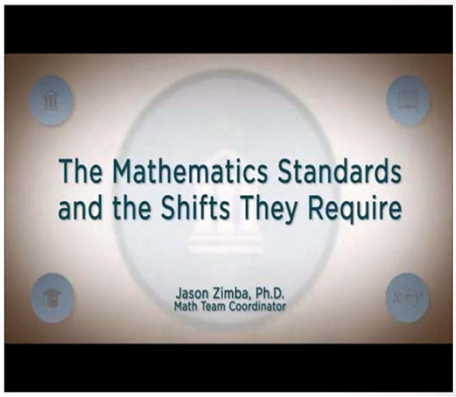


	Spring 2010	Spring 2011	Spring 2012	Spring 2013	Spring 2014
2nd	199.2	199.1	197.1	197.6	191.2
3rd	208.3	210.3	208.4	205.3	203.9
4th	217.6	219	220.0	216.8	214.2
5th	225.6	227.2	226.0	225.1	223.8
6th	230.2	229.1	230.7	228.0	231.2
7th	235.2	234.4	233.1	234.0	234.2
8th	240	239	236.7	235.9	239.5

This is the NWEA data slide that was presented to the Board during previous presentations.

The CCSS Requires Three Shifts in Mathematics

1. **Focus:** Focus strongly where the Standards focus.
2. **Coherence**: *Think* across grades and *link* to major topics within grades.
3. **Rigor:** In major topics, pursue *conceptual* **understanding,** procedural skill and *fluency*, and *application.*



https://vimeo.com/92784227

17

The Common Core State Standards for Mathematics were designed to address these challenges. To learn more about the Standards we are going to talk about the three shifts, which represent the overarching messages in these new Common Core Math Standards.

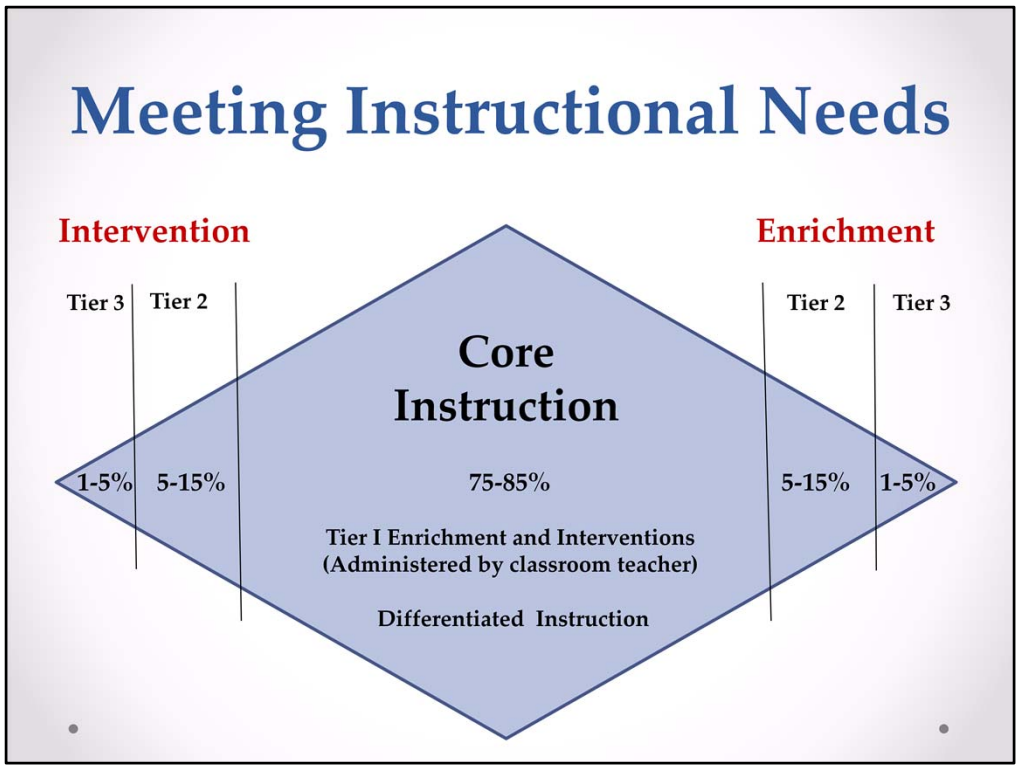
The three shifts in mathematics are; Focus, Coherence, and Rigor

Key Areas of Focus in Mathematics

Grade	Focus Areas in Support of Rich Instruction and Expectations of Fluency and Conceptual Understanding
K–2	Addition and subtraction - concepts, skills, and problem solving and place value
3–5	Multiplication and division of whole numbers and fractions – concepts, skills, and problem solving
6	Ratios and proportional reasoning; early expressions and equations
7	Ratios and proportional reasoning; arithmetic of rational numbers
8	Linear algebra and linear functions

Focus in the Common Core Standards means two things. What is in versus what is out, but also what the main focus areas of the standards are for each grade. This chart shows what the major focus areas are for K-8 math. These are the concepts which demand the most time, attention, and energy throughout the school year. It is through focus in these key areas in K-8 that students will be best be prepared for further studies of math in HS and, consequently, college and career ready.

It is important to note that these are not topics to be checked off a list during an isolated unit of instruction, but rather these priority areas will be present throughout the school year through rich instructional experiences.



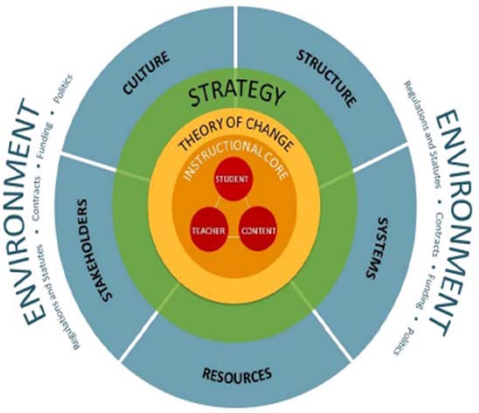
Studies like the TIMSS (Trends in International Mathematics and Science Study – this was a 20 year trend study of student performance) study indicated that the decline in data was nationwide. The country in comparison to international studies was declining in performance.

The standards had an increase rigor and our data over a five year trend and was showing flat or declining trends showed us there was a need to re-evaluate instructional delivery and materials.

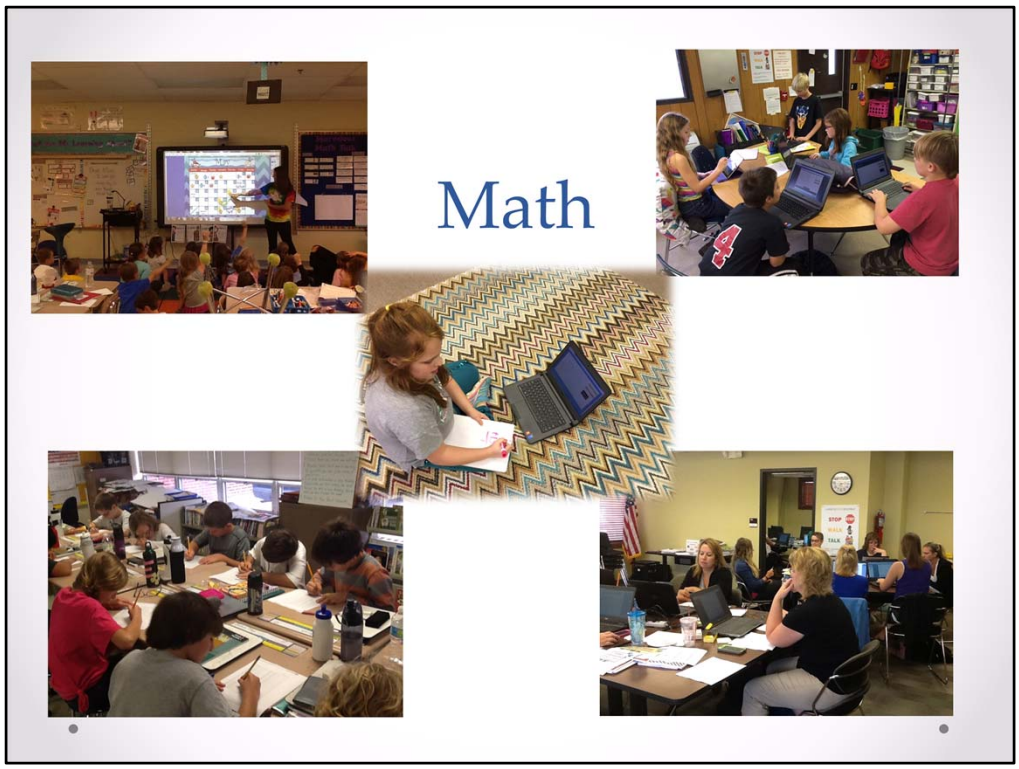
The work that we were doing aligning current materials to the new criteria was showing us that we needed more rigorous materials in the hands of our teachers and students. This is when we started step 2 of evaluating everything that was available to us.

Curriculum Development: Purposes, Practices, Procedures

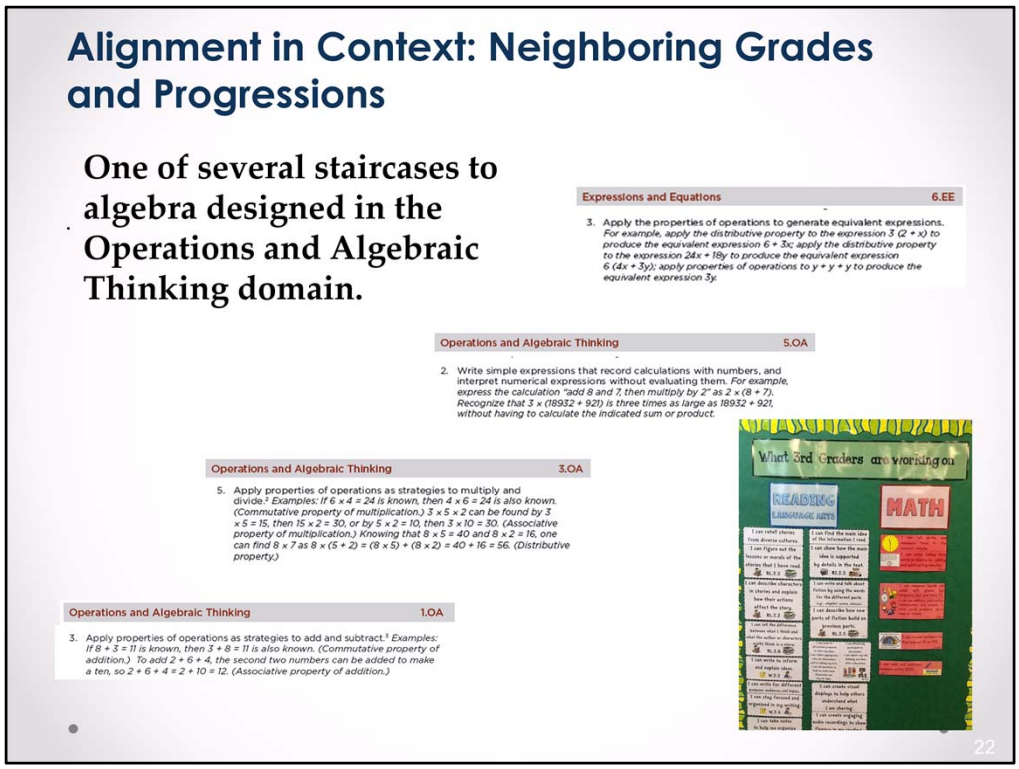
The development of an effective curriculum guide is a ***multi-step, ongoing and cyclical process.*** *The process progresses from* ***evaluating*** *the existing program, to* ***designing*** *an improved program, to* ***implementing*** *a new program and* ***back to evaluating*** *the revised program.*



Throughout this presentation it is important to remember that curriculum development is a continuous cycle.
Each phase is part of a progression that is multi-step and ongoing. The process progresses from evaluating the existing program, to designing an improved curriculum, to implementation, and then back to evaluating



Now we are here in the 2015-2016 school year and we would like to take you through the work that has been done over the past three years in an effort to strengthen math curriculum in Antioch 34.
Revamping the Math program has been a tremendous undertaking and the teachers have dedicated the time necessary to begin shifting our thinking to the new criteria and the need to prepare our students for College and Career readiness.
Teachers have participated in:
Professional Development
Work Teams
Summer Work Groups
Collaborative opportunities
Video tutorials
Shared Leadership, teachers have been presenting to teachers and visiting each others classroom
Networking with other Illinois districts and states



Coherence is an important element in the curricular process. Topics are sequenced, highlighting the connections within a grade and between grades. This slide shows a coherent algebraic progression from 1st grade to 6th grade. First grade focuses on the addition and subtraction operations and properties. In third grade we are using properties for multiplication and division. Fifth grade uses the knowledge of operation and properties and applies that to writing and interpreting expressions. The sequencing of these standards creates a foundation to draw from in sixth grade where students use their knowledge of operations, properties, and expressions to create equivalent expressions.

Coherence: *Link* to Major Topics Within Grades

Example: Data Representation

Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step "how many more" and "how many less" problems using information presented in scaled bar graphs. *For example, draw a bar graph in which each square in the bar graph might represent 5 pets.*

Standards 3.MD.3 & 3.OA.8

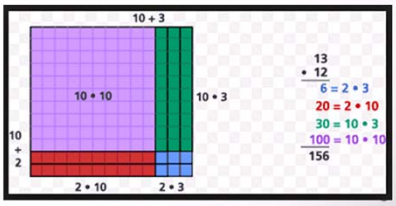
This example of coherence links 3.OA.8, a major topic to 3MD3, a supporting topic. Major topics are where instruction will focus for about 70 percent of the school year. Major topics are concepts that take more time to master. The time spent on supporting and additional topics is about 20 and 10 percent of instructional time in a year. Instead of bar charts being "yet another thing to cover", detracting from the focus , the standard is telling you how to "aim" bar charts back to the major work in the grade. These connections are explicit in the standards. In the past, picture or bar graphs might have been distinct things to be accessed; now they are connected to major work in the grade.

Coherence: *Link* to Major Topics Within Grades

Example: Geometric Measurement

Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

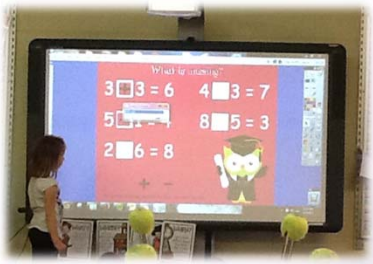
3.MD, third cluster



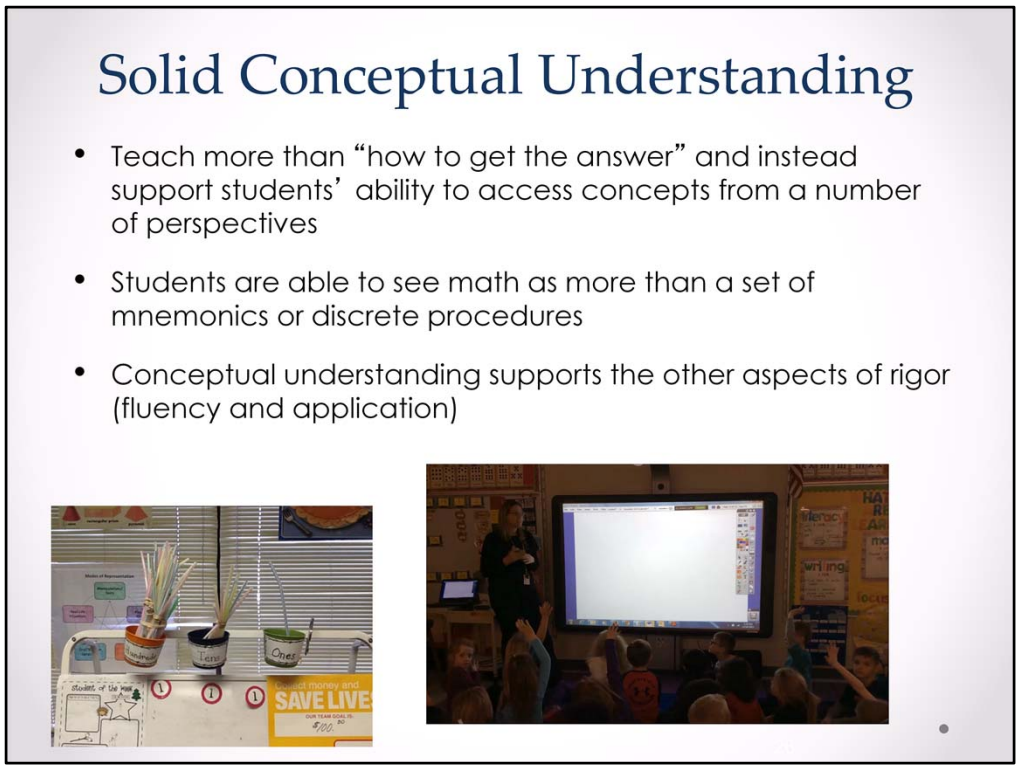
Another example of coherence within a grade: Area is not just another topic to cover in Grade 3 . It is explicitly linked to addition and multiplication in the standards. This is clear in 5th grade as well when volume is introduced.

Rigor

- The CCSSM require a balance of:
  - Solid conceptual understanding
  - Procedural skill and fluency
  - Application of skills in problem solving situations
- Pursuit of all three requires equal intensity in time, activities, and resources.



The third shift is Rigor. What does this mean?
This word can mean many different things. For purposes of describing the shifts of the standards, it does **not** mean "more difficult." For example, stating that "the standards are more rigorous" does not mean that "the standards are just harder." Here rigor is about the depth of what is expected in the standards, and also about what one should expect to see happening in the classroom, in curricular materials, and so on.

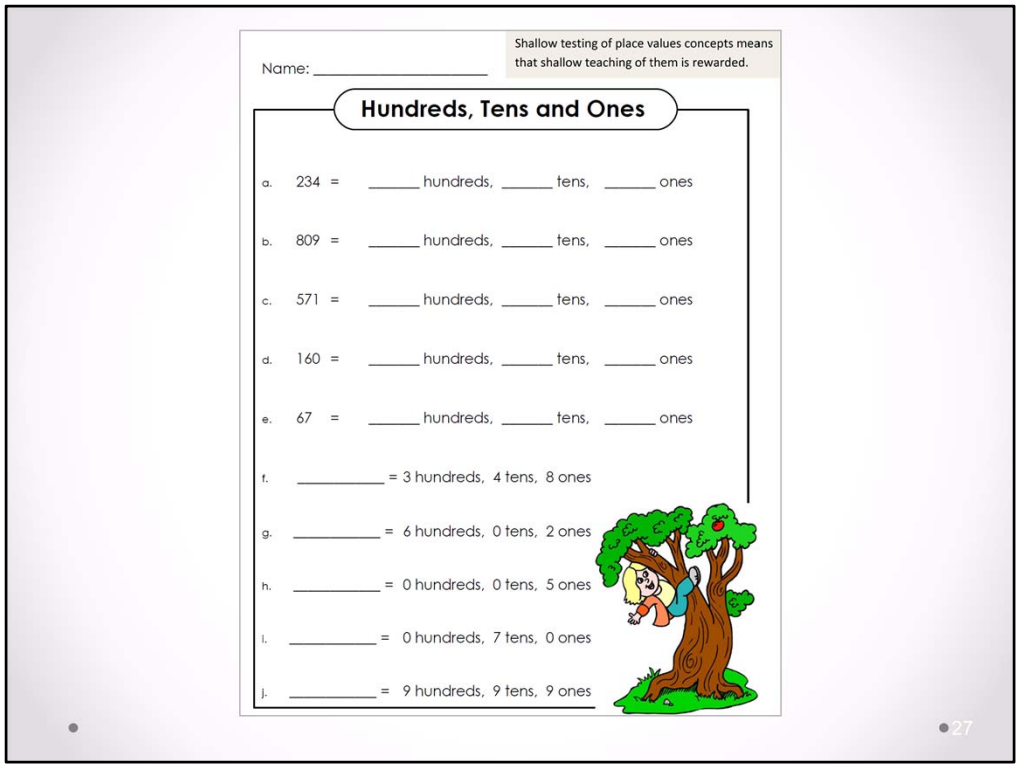


One aspect of rigor is building solid conceptual understanding. Once we have a set of standards that are in fact focused, teachers and students have the time and space to develop solid conceptual understanding. {read the slide} There is no longer the pressure to quickly teach students how to superficially get to the answer, often relying on tricks or mnemonics. The standards instead require a real commitment to understanding mathematics, not just how to get the answer.

Play Video

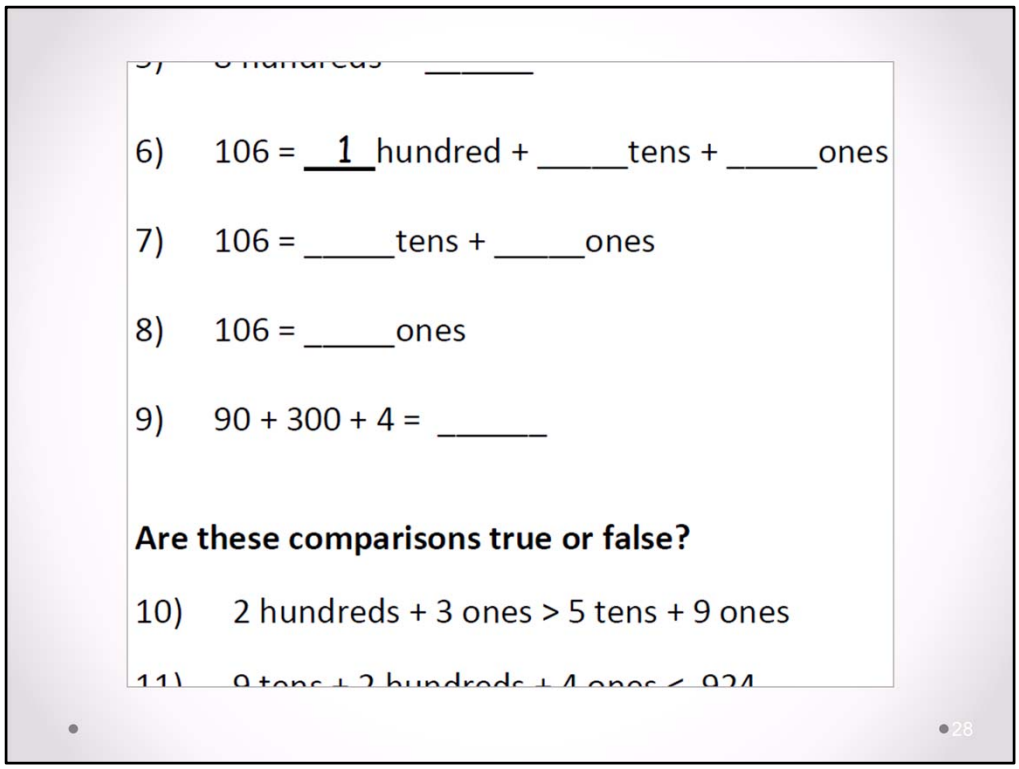
Attention to conceptual understanding is one way that we can start counting on students building on prior knowledge. It is very difficult to build further math proficiency on a set mnemonics or discrete procedures.

Conceptual understanding provides a solid foundation and readily allows a student to transfer and apply information.

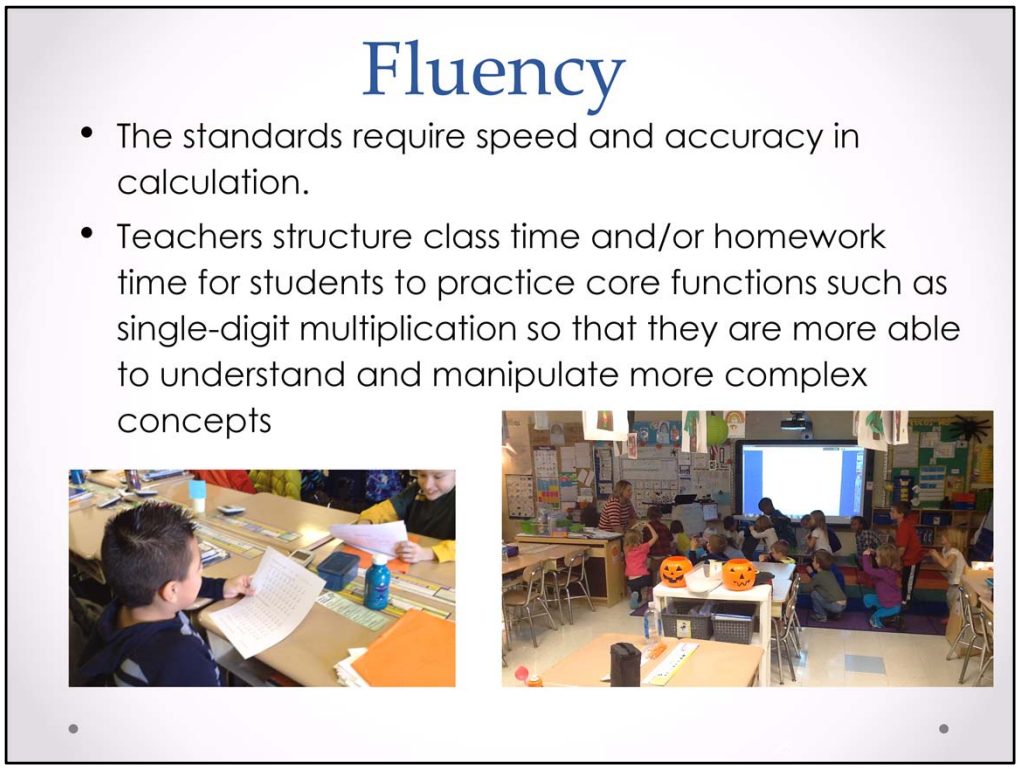


Here is an example of a place value chart that you get when you search for “place value worksheets” online. It is difficult to assess whether your students had a conceptual understanding of place value by them completing this worksheet. It would be fairly obvious to a student who does not understand place value that the first number goes with hundreds, the 2nd number with tens and so on. Even on problem letter h, where it could have asked for deeper understanding, the worksheet places a 0 for tens to eliminate any need for thinking.

Is this worksheet assessing place value or pattern recognition? This is not a good example of a place value worksheet.



Here is a snapshot of another worksheet practicing place value understanding. You can see how a teacher would be able to assess a student's conceptual understanding of place value more clearly with the results of this worksheet. In problems 6-8, the base ten units in 106 are bundled in different ways. This is helpful when learning how to subtract in a problem like 106-37. The number 106 is the same as 10-tens and six one, 37 is the same as 3 tens and seven ones once you regroup you have 9 tens and 16 ones. Now you can subtract 3 tens and 7 ones, 6 tens and 9 ones or 69 demonstrating a conceptual understanding of subtraction and place value. In #9, we see that if the order is always given "correctly," then all we do is teach students rote strategies without thinking about the size of the units or how to encode them in positional notation.



Two Videos

Another aspect of rigor is procedural skill and fluency. {read slide}

Note that this is not rote memorization. This is the outcome of a carefully laid out learning progression.

At the same time, we can't expect fluency to be a natural outcome without addressing it specifically in the classroom and in our materials. Some students might require more practice than others, and that should be attended to.

Additionally, there is not one approach to get to speed and accuracy that will work for all students. All students, however, will need to develop a way to get there.

It is important to note here that while teachers in grades K-5 may find creative ways to use calculators in the classroom, students are not meeting the standards when they use them--not just in the area of fluency, but in all other areas of the Standards as well.

Required Fluencies in K-6

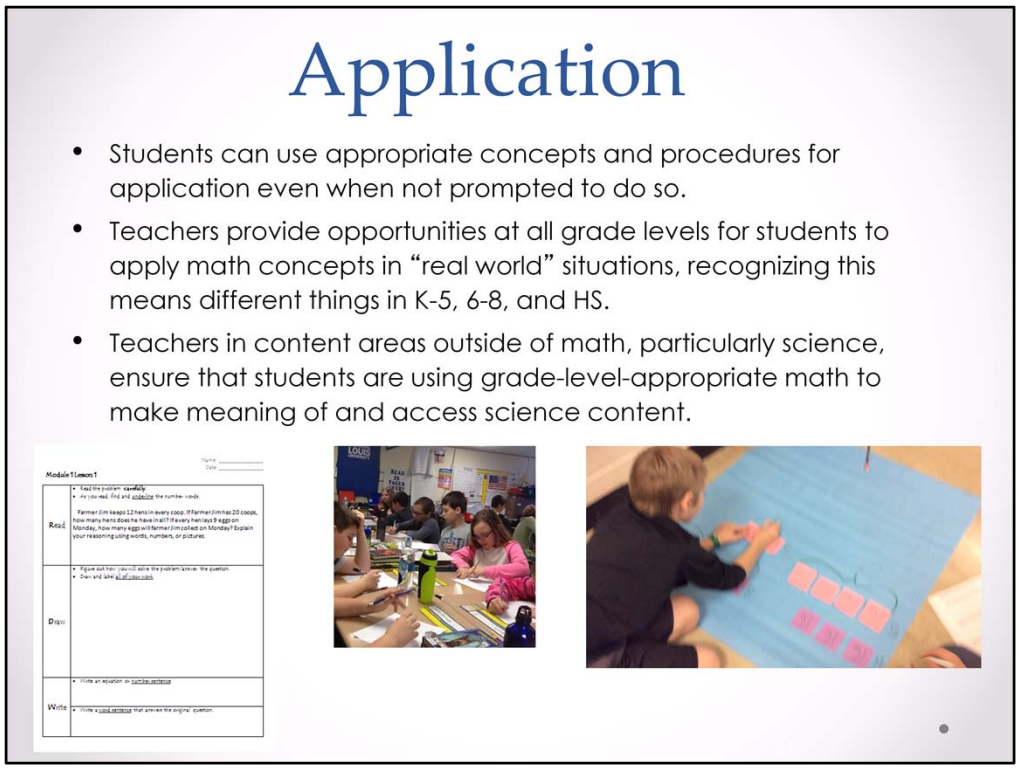
Grade	Standard	Required Fluency
K	K.OA.5	Add/subtract within 5
1	1.OA.6	Add/subtract within 10
2	2.OA.2 2.NBT.5	Add/subtract within 20 (know single-digit sums from memory) Add/subtract within 100
3	3.OA.7 3.NBT.2	Multiply/divide within 100 (know single-digit products from memory) Add/subtract within 1000
4	4.NBT.4	Add/subtract within 1,000,000
5	5.NBT.5	Multi-digit multiplication
6	6.NS.2,3	Multi-digit division Multi-digit decimal operations

This chart shows a breakdown of the required fluencies in grades K-6.

Fluent in the particular Standards cited here means "fast and accurate." It might also help to think of fluency in math as similar to fluency in a foreign language: when you're fluent, language flows. Fluent is not halting, stumbling, or reversing oneself.

The word *fluency* was used judiciously in the Standards to mark the endpoints of progressions of learning that begin with solid underpinnings and then pass upward through stages of growing maturity.

Some of these fluency expectations are meant to be mental, others need pencil and paper. But for each of them, there should be no hesitation about how to proceed in getting the answer with accuracy.

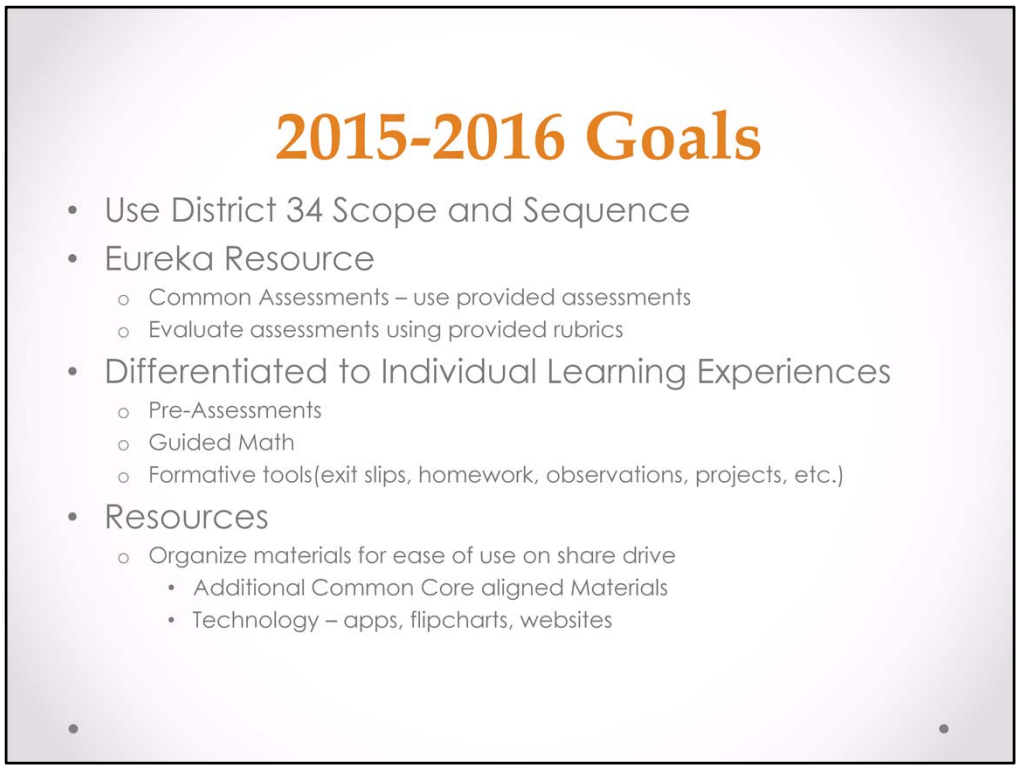


Video

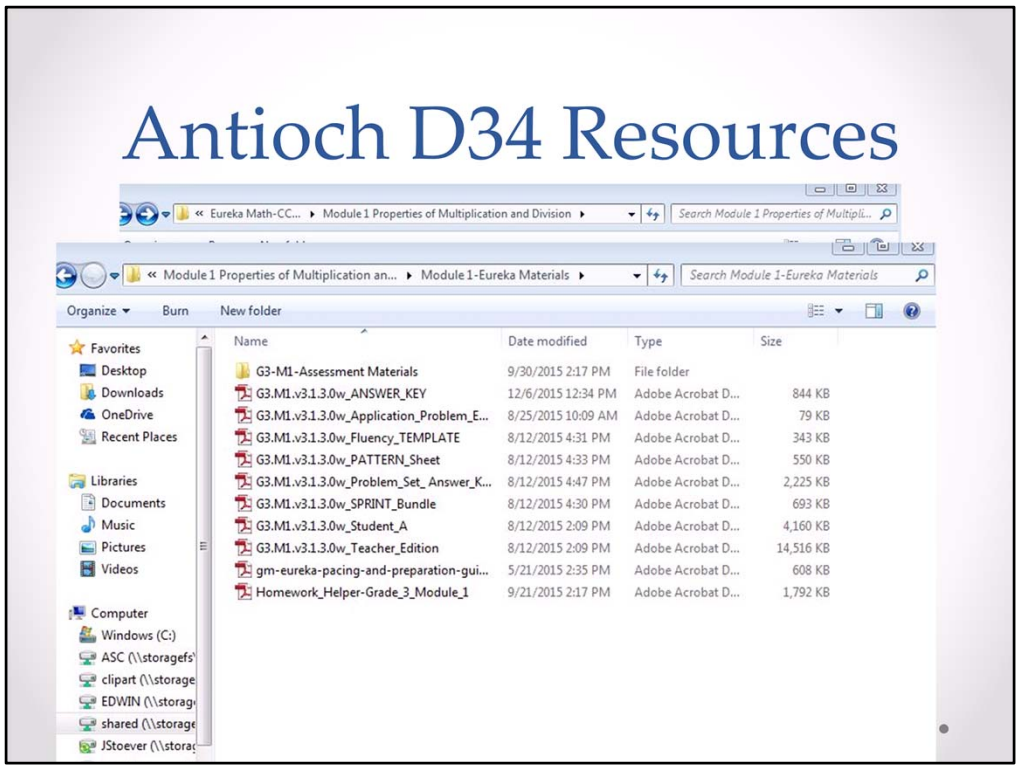
Using mathematics in problem solving contexts is the third leg of the stool supporting the learning that is going on in the math classroom.

This is the "why we learn math" piece, right? We learn it so we can apply it in situations that require mathematical knowledge. There are requirements for application all the way throughout the grades in the CCSS. {read slide} But again, we can't just focus solely on application—we need also to give students opportunities to gain deep insight into the mathematical concepts they are using and also develop fluency with the procedures that will be applied in these situations. The problem-solving aspect of application is what's at stake here—if we attempt this with a lack of conceptual knowledge and procedural fluency, the problem just becomes three times harder.

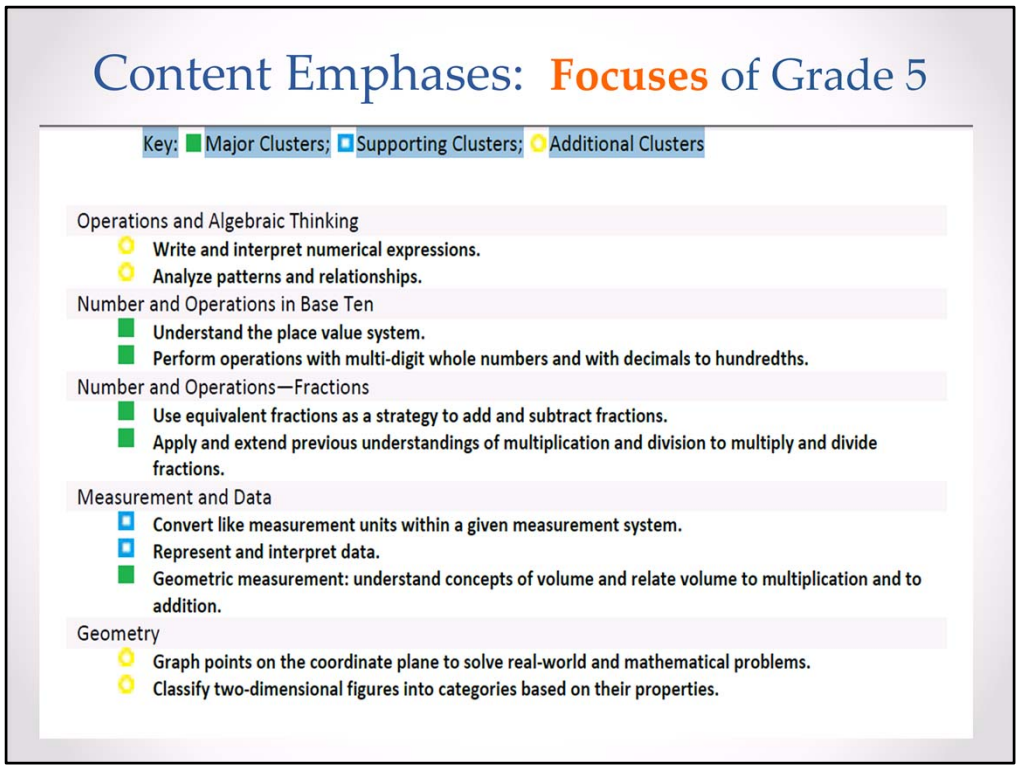
At the same time, we don't want to save all the application for the end of the learning progression. Application can be motivational and interesting, and there is a need for students at all levels to connect the mathematics they are learning to the world around them.



Let's take this foundational knowledge and see how it applies to our 2015/2016 Goals



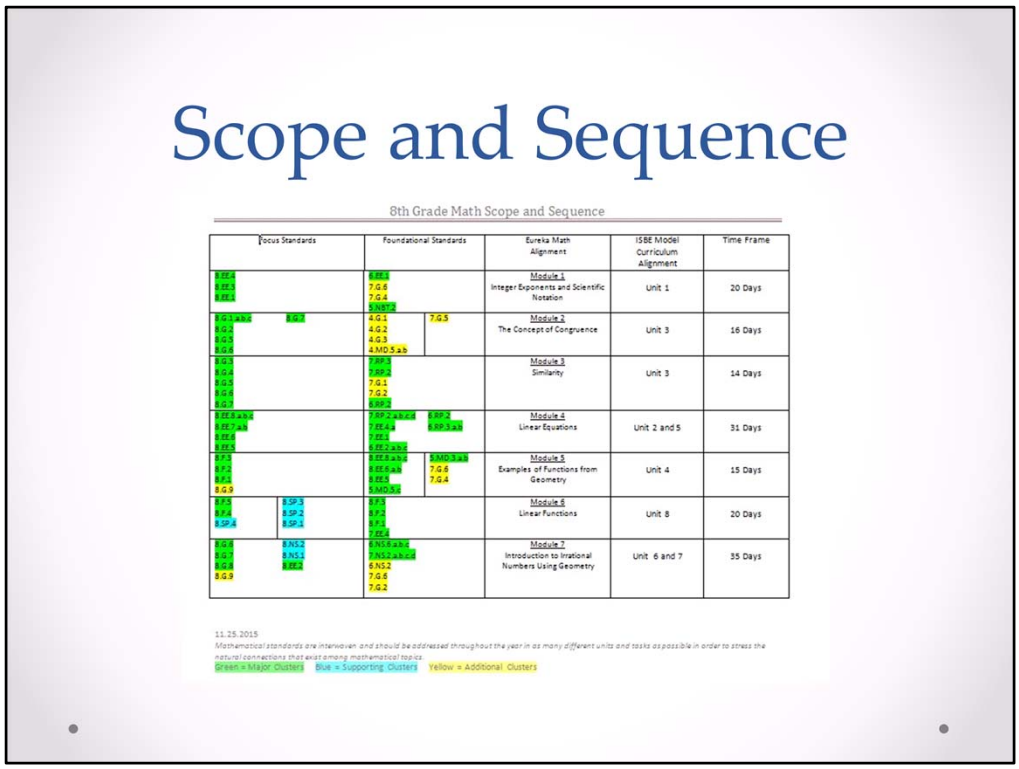
This is a sample of how the materials are organized for each grade level on the share drive.



As stated earlier it is important to remember that not all of the content in a given grade is emphasized equally in the standards.
Some clusters require greater emphasis than the others based on the depth of the ideas, the time that they take to master, and/or their importance to future mathematics or the demands of college and career readiness.
In addition, an intense focus on the most critical material at each grade allows depth in learning, which is carried out through the Standards for Mathematical Practice.

To say that some things have greater emphasis is not to say that anything in the standards can safely be neglected in instruction.
Neglecting material will leave gaps in student skill and understanding and may leave students unprepared for the challenges of a later grade.
The table on this slide identifies the Major Clusters, Additional Clusters, and Supporting Clusters for this grade.

Focusing on major work aids the implementation of the practice standards because of the way those standards require more depth



When building the scope and sequence for each grade level it was built to be coherent, meaning the grade level and the modules within the grade level build on each other and highlight the connections. We want students to build a unified principal to help them understand mathematics is not to have a bunch of ideas memorized. We need to try and remember how to apply these ideas.
The scope and sequence is built on the major work in the grade level. This is the connectivity within the grade level.
On every scope and sequence we have identified the Major – green standards, Supporting – blue standards, and the Additional – yellow standards. When we think of the green, blue, yellow color coding that are in the modules we need to think how the green standards are the ones we need to spend the "most" time on. The major standards take longer to master, and/or their importance to future mathematics or the demands of college and career readiness.

The scope and sequence also identifies the foundational standards. These are the standards that set the foundation for that module. This is on the scope and sequence to help teachers identified how to support students who may be struggling with understanding the topic.

The scope and sequence also identifies to the Eureka Math Tool and the ISBE Model Curriculum, providing teachers flexibility to choose from a variety of resources to meet the needs of their students. If teachers are not ready to use more than one tool focusing on the use of the Eureka resource provides a comprehensive research based instructional support.

Eureka provides lessons, assessments, homework, answer sheets, modeled examples for teachers, video professional development for teachers, newsletters for parents for the modules, and additional resources to support learning in the classroom. Written based on the UDL principals allows for and provides a variety of differentiation suggestions to meet the needs of learners.

The last piece of the scope and sequence are the time frames. This is the pacing, and how long each module should take to complete. Currently the pacing right now is very difficult for teachers to keep pace with. This is because we are learning the materials and there are gaps in the student learning. As we continuously work through the materials and investigate the standards, the pacing is getting better for teachers. We realize this is a very rigorous scope and sequence and are continuously, through our summer work, finding ways to condense lessons and through reflection modify the scope and sequence.

When we originally wrote the scope and sequence we aligned it with the PARCC assessment. The standards were clustered and modules were organized to make sure the standards that were on the PBA (performance based assessment) were taught prior to the March testing window and the standards that were tested on the EOY (end of year assessment) were covered prior to testing in May.

We understand it doesn't 100% align to the NWEA test but NWEA is in the process of updating their assessment to better align to PARCC and SMARTER Balance. As a result the decision was made to not re-align scope and sequence to match NWEA at this time.

District 34 Curriculum

- Tools/Resources
  - Math Curriculum
    - Overview
      - Scope and Sequence(pacing)
      - Standards(content and practice)
      - Color coded PARCC Model Content Framework(Major/Supporting/Ac
    - Eureka Math
    - Teacher Identified Additional Resources
      - K-5 Math Teaching Resources
      - Illustrative Mathematics
      - Georgia Lessons
      - NCTM
      - North Carolina resources
      - ISBE
    - Literature
    - Math Technology Resources
      - Teacher Created FlipCharts
      - iPad Aps
      - Websites
    - Vocabulary
  - Shared Drive
    - Materials organized by grade level and modules
  - Professional Resources(Number Talks, Teaching Student-Centered Mathematics, Integrating the Common Core in Mathematics, It Makes Sense!, and Number Sense Routines)

The definition of the term curriculum is: **Curriculum** refers to the means and materials with which students will interact for the purpose of achieving identified educational outcomes.

Since the adoption of the CCSS we have been working on finding, creating, and utilizing resources to create and enhance our curriculum.

This slide reflects the work grades 2-5 has created, organized, and acquired in the past few years. Throughout the presentation we will look at tools and materials available, ideas on how to organize this information, and hopefully start thinking about additional resources you'd like to explore.

Resources

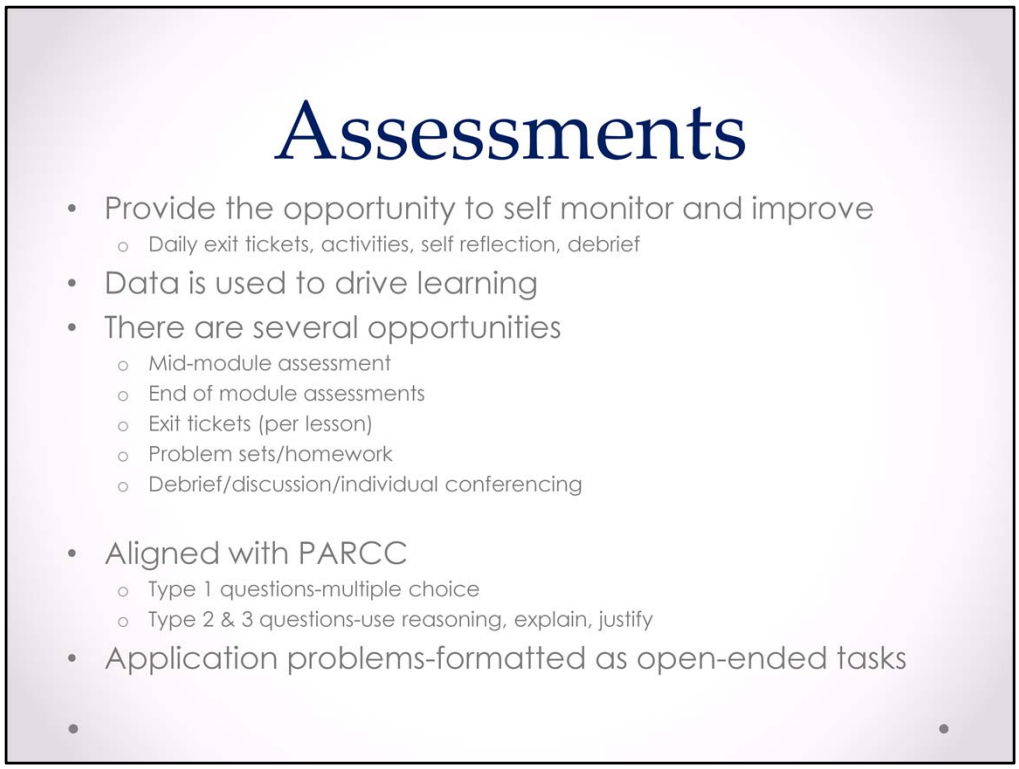

What 3rd Graders are working on
READING
LANGUAGE ARTS
MATH
I can retell stories from diverse cultures.
I can figure out the lessons or morals of the stories that I have read.
RL.3.2
I can find the main idea of the information I read.
I can show how the main idea is supported by details in the text.
RI.3.2
I can describe characters in stories and explain how their actions affect the story.
RL.3.3
I can write and talk about fiction by using the words for the different parts (e.g., chapter, scene, stanza).
I can describe how new parts of fiction build on previous parts.
RL.3.5
I can tell the difference between what I think and what the author or characters might think in a story.
RL.3.6
I can write to inform and explain ideas.
W.3.2
I can write for different purposes, audiences, and topics.
I can stay focused and organized in my writing.
W.3.4
I can take notes to help me organize
I can create visual displays to help others understand what I am sharing.
I can create engaging audio recordings to show


COLLEGE
READINESS
STARTS
TODAY

Eureka

- Designed around 3 Shifts:
  - Focus
    - Grade level standards
  - Coherence
    - Builds on prior grade's standards
    - Within grade material transitions based on connections
  - Rigor
    - Conceptual: Deep understanding
      - Learning progression: concrete/pictorial/abstract
    - Procedural:
      - Computational fluency: Flexibility and efficiency with numbers
      - Fact fluency: Recall of facts(after conceptual understanding), striving for automaticity(Rocket Math)
    - Application: Using the math and allowing the ability to chose and apply
  - UDL Theory

Anne Meyer and David Rose, who first laid out the principles of UDL in the 1990s, based on research and best practices. Universal Design for Learning or UDL should not be confused with UbD, understanding by Design which is used in creating curriculum. UDL consists of a framework that provides all students an opportunity to learn. Using UDL in the classroom makes curriculum and instruction accessible and engaging. Curriculum barriers are reduced; learning is supported; students gain knowledge, skills, and enthusiasm for learning; and their learning is validly assessed.

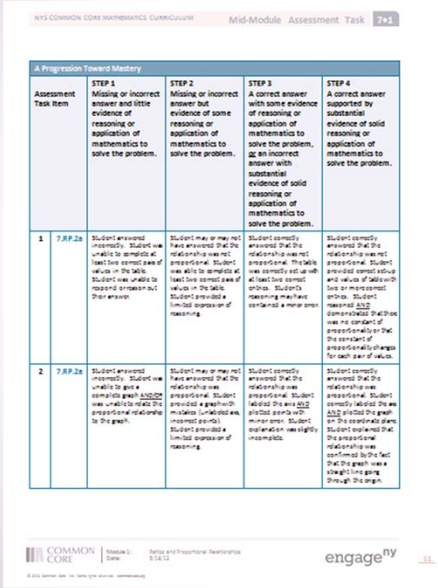


Data driven instruction is a precise and systematic approach to improving student learning throughout the year. Teachers are continuously evaluating their student's progress in learning by asking the questions:

What is the goal?
Where are we? OR Where is the student at?
How are we/you going to get there?

There are several assessment opportunities that are used to drive instruction as seen on this slide. The key is to drill down in the data and analyze the skills that need to be focused on to ensure mastery.

Assessment Rubrics

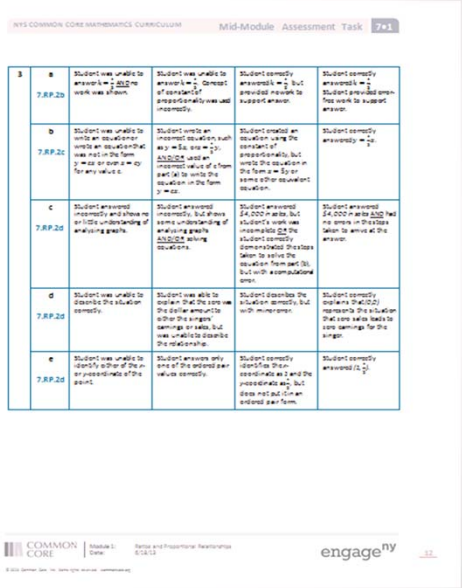


NYS COMMON CORE MATHEMATICS CURRICULUM Mid-Module Assessment Task 7•1

A Progression Toward Mastery

Assessment Task Item		STEP 1 Missing or incorrect answer and little evidence of reasoning or application of mathematics to solve the problem.	STEP 2 Missing or incorrect answer but evidence of some reasoning or application of mathematics to solve the problem.	STEP 3 A correct answer with some evidence of reasoning or application of mathematics to solve the problem, or an incorrect answer with substantial evidence of solid reasoning or application of mathematics to solve the problem.	STEP 4 A correct answer supported by substantial evidence of solid reasoning or application of mathematics to solve the problem.
1	7.RP.2a	Student answered incorrectly. Student was unable to complete at least two correct pairs of values in the table. Student was unable to respond or explain out their answer.	Student may or may not have answered that the relationship was not proportional. Student was able to complete at least two correct pairs of values in the table. Student provided a limited expression of reasoning.	Student correctly answered that the relationship was not proportional. The table was correctly set up with at least two correct entries. Student's reasoning may have contained a minor error.	Student correctly answered that the relationship was not proportional. Student provided correct set-up and values of table with two or more correct entries. Student reasoned AND demonstrated that there was no constant of proportionality or that the constant of proportionality changes for each pair of values.
2	7.RP.2a	Student answered incorrectly. Student was unable to give a complete graph AND/OR was unable to relate the proportional relationship to the graph.	Student may or may not have answered that the relationship was proportional. Student provided a graph with mistakes (unlabeled axes, incorrect points). Student provided a limited expression of reasoning.	Student correctly answered that the relationship was proportional. Student labeled the axes AND plotted points with minor error. Student explanation was slightly incomplete.	Student correctly answered that the relationship was proportional. Student labeled the axes AND plotted the graph on the coordinate plane. Student explained that the proportional relationship was confirmed by the fact that the graph was a straight line going through the origin.

COMMON CORE | Module 1: Ratios and Proportional Relationships Date: 6/14/13 engage^ny 11



NYS COMMON CORE MATHEMATICS CURRICULUM Mid-Module Assessment Task 7•1

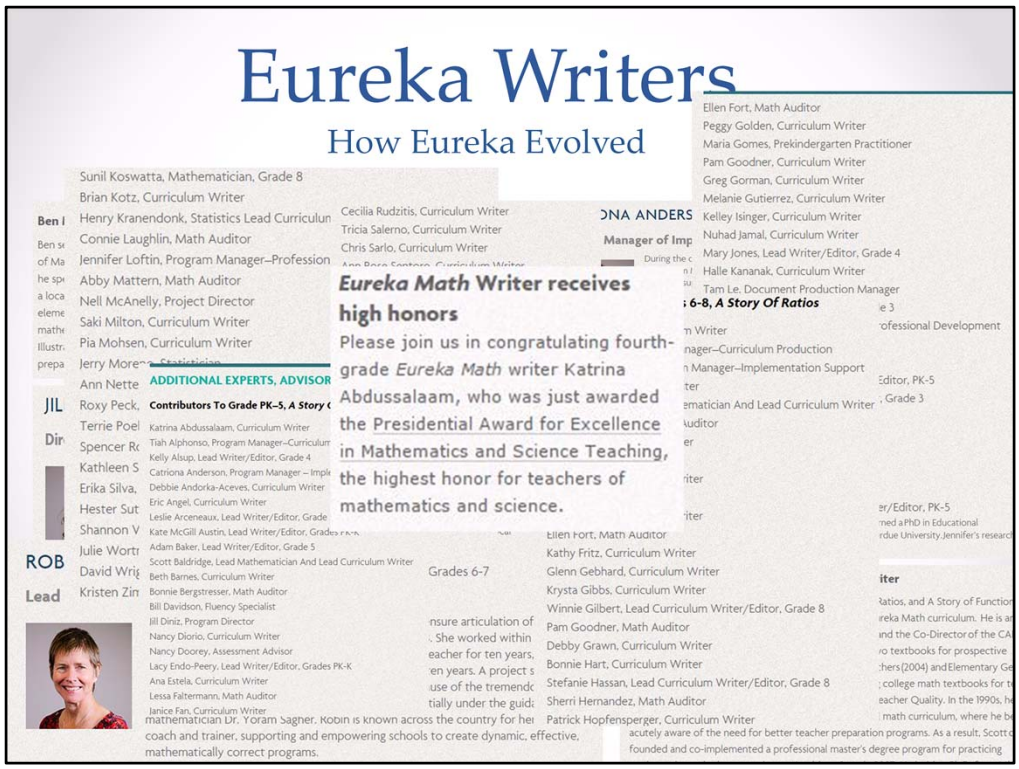
3	a 7.RP.2b	Student was unable to answer $k = \frac{1}{2}$ AND no work was shown.	Student was unable to answer $k = \frac{1}{2}$. Concept of constant of proportionality was used incorrectly.	Student correctly answered $k = \frac{1}{2}$, but provided incorrect work to support answer.	Student correctly answered $k = \frac{1}{2}$. Student provided error-free work to support answer.
	b 7.RP.2c	Student was unable to write an equation or wrote an equation that was not in the form $y = cx$ or $x = cy$ for any value c.	Student wrote an incorrect equation, such as $y = 2x$, or $x = \frac{1}{2}y$, AND/OR used an incorrect value of k from part (a) to write the equation in the form $y = cx$.	Student created an equation using the constant of proportionality, but wrote the equation in the form $x = \frac{1}{2}y$ or some other equivalent equation.	Student correctly answered $y = 2x$, $x = \frac{1}{2}y$.
	c 7.RP.2d	Student answered incorrectly and shows no or little understanding of analyzing graphs.	Student answered incorrectly. Student shows some understanding of analyzing graphs AND/OR solving equations.	Student answered $4,000 in sales, but student's work was incomplete OR the student correctly demonstrated the steps taken to solve the equation from part (b), but with computational error.	Student answered $4,000 in sales AND had no errors in the steps taken to arrive at the answer.
	d 7.RP.2d	Student was unable to describe the situation correctly.	Student was able to explain that the cars was the dollar amount to either the singers' earnings or sales, but was unable to describe the relationship.	Student describes the situation correctly, but with misconception.	Student correctly explains that $(0,0)$ represents the situation that zero sales leads to zero earnings for the singer.
	e 7.RP.2d	Student was unable to identify either of the x- or y-coordinate of the point.	Student answers only one of the ordered pair values correctly.	Student correctly identifies the x-coordinate as 2 and the y-coordinate as 4, but does not put them in an ordered pair form.	Student correctly answered $(2, 4)$.

COMMON CORE | Module 1: Ratios and Proportional Relationships Date: 6/14/13 engage^ny 12

Using rubrics allows for evaluation of the process, not just the final answer.

This provides a wealth of information making them great communication pieces, allowing for specific feedback. This individual feedback helps the child understand what specific skills the need to focus and work on or what they are excelling in. Rubrics are a great communication piece for parents too.

The rubrics indicate standard alignment and identify skills within the various questions. Using common assessments is a valuable data piece beyond identifying student need/accomplishments. Grade level teachers use team time to discuss work samples and share strategies to move students towards mastery.



The writers of Eureka are a diverse group, with teaching backgrounds from the elementary grades, middle school, high school, and through the collegiate level. Some were from Louisiana, while others were from out of state. The vast majority of the writers were classroom teachers. They were teaching the material they were writing, while being in the classroom every day. The focus on creating the materials was based on sharing the beauty and joy that can be found in mathematics.

Nell McAnelly is a math instructor at Louisiana State University and co-director emeritus of the Gordon A. Cain Center for Science, Engineering, Technology and Mathematical Literacy at the Baton Rouge university. She is one of six co-directors that run the Cain Center, which is an interdisciplinary unit on campus now.

She said from start to finish, the process took three years. It began when the nonprofit Common Core Inc., named after University of Chicago standards and now called Great Minds, responded to a request for proposals from the New York State Education Department and was awarded three contracts to write the curriculum.
Some who oppose the curriculum often cite its beginnings as a curriculum for another state and call Eureka Math “re-branded Engage New York.”
“Modules originally went up on the Engage New York website,” she said. “... The funding was able to make it available to everyone. We wrote Engage New York, realized how widely it was being used and that it needed a home other than the Engage New York site. The material is essentially the same.”
“... One of the advantages to being able to do this nationally is it has been vetted by

Louisiana, states nationally and by education experts. It gave us a wider perspective," she added.

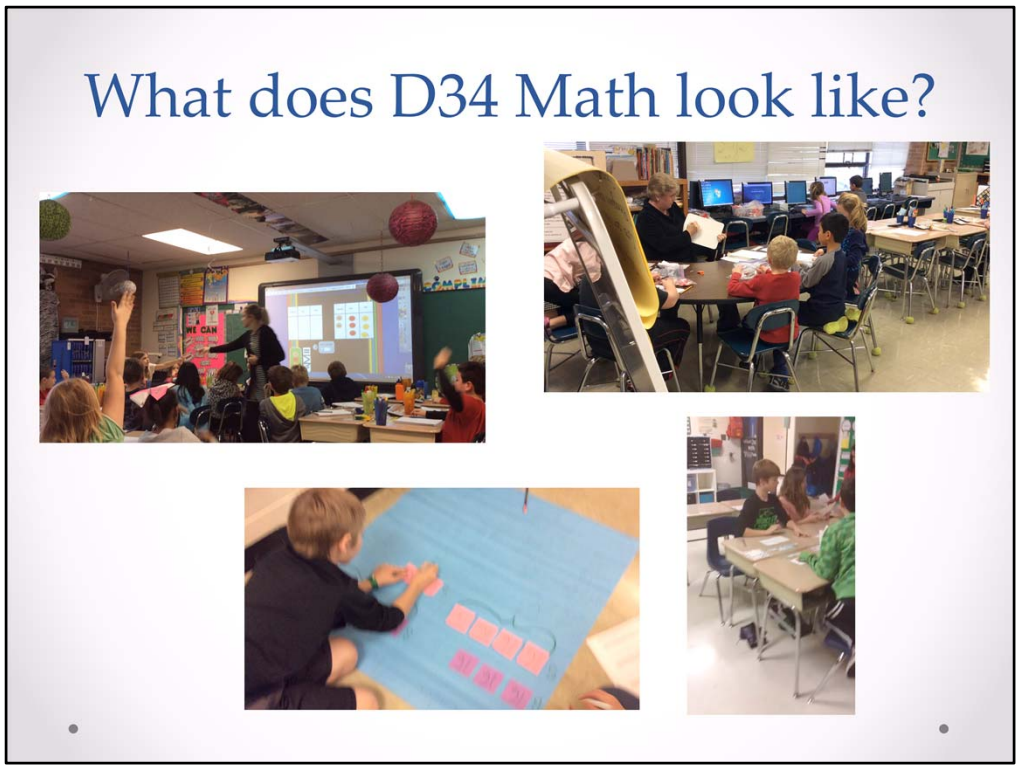
While Engage New York curriculum is finished, Eureka Math writers will continue to engage, improve and develop other components, McAnelly said. That includes changes or "tweaks" to address issues or different needs, as it wasn't perfect when created to meet a "tight timeline."

They began writing the resource in 2012 and finished in 2014. Three or four pilot modules were available and tested in the 2012-13 school year. Materials rolled out during the 2013-14 school year. There were some early implementers in Louisiana, and it was implemented in New York. Identifying precise numbers of early adopters is difficult because initially the number of digital downloads wasn't tracked.

Throughout the development process "Writers looked at different grades, so there's coherency, consistency, vocabulary and models all lining up," she said. "Then we would break down and write each grade level. It was reviewed by parents, teachers, and national experts."

"The coherence ... within grade and from grade to grade (makes it work)," she said. "I think you'll see better results. Two, the rigor. That doesn't just mean harder. The definition is a balance of 'process skill, concept understanding and the application.' You need all to work well in math. You need to understand where it comes from, why it works."

"And three, fluency. That was a focus all the way through."



4 videos

The use of technology is prevalent on a daily basis. Using the tool engages students, allows for differentiation of instructional delivery, is used as a means of communication, and can be used to express thoughts and ideas. Many of our teachers create and use flipcharts as instructional tools. This is example is an 8th grade flipchart our teachers have created.

Our Common Core Standard is:

8.G.A.1. Verify experimentally the properties of rotations, reflections, and translations:

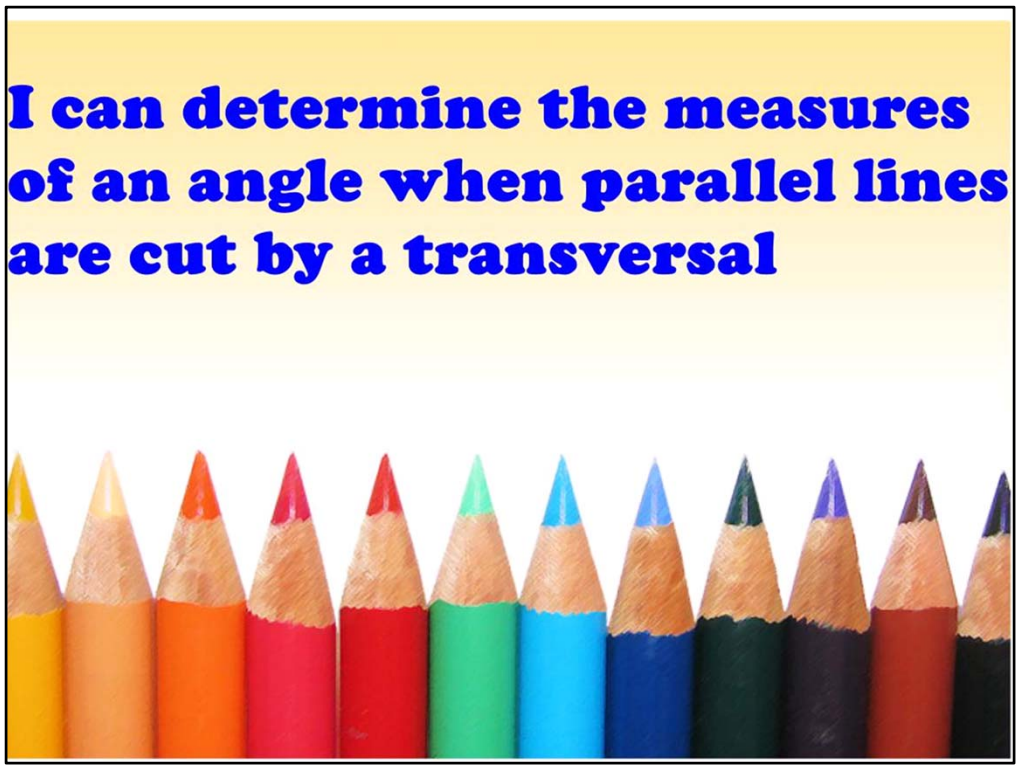
a. Lines are taken to lines, and line segments to line segments of the same length.

b. Angles are taken to angles of the same measure.

c. Parallel lines are taken to parallel lines.

But, 8th graders don't think like this...

Standard aligned goals are the focus and drive our instruction.

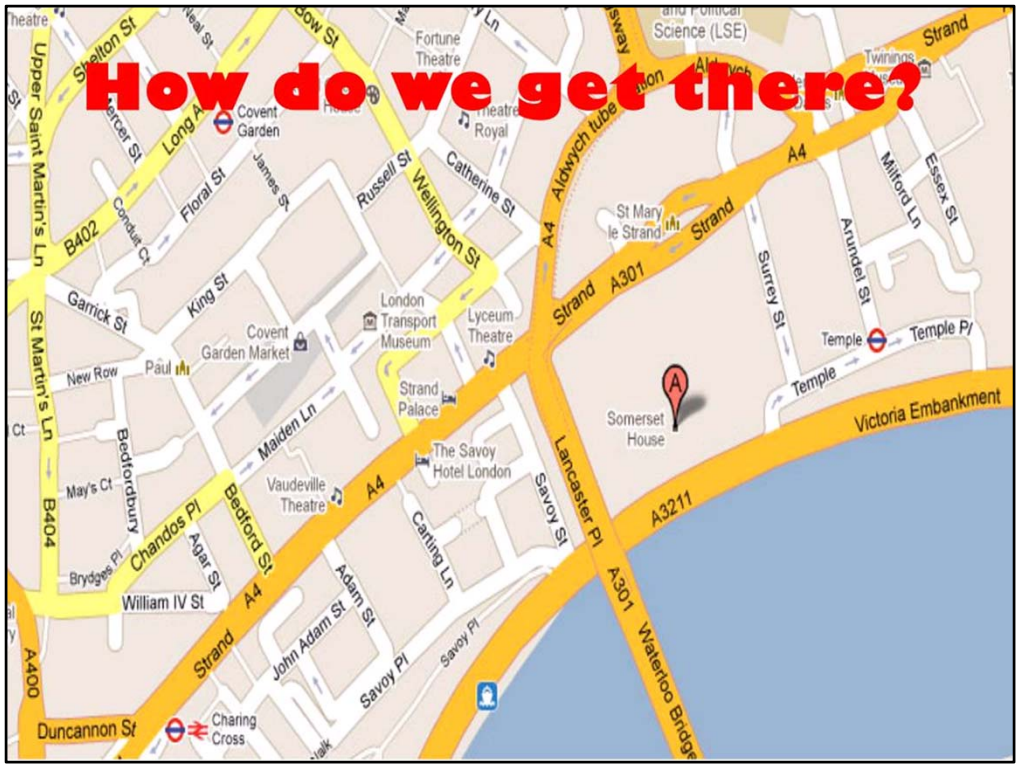


These goals are shared with students as I Can statements, putting the language in student friendly terms.

The focus of the lesson is shared with students daily.

Video

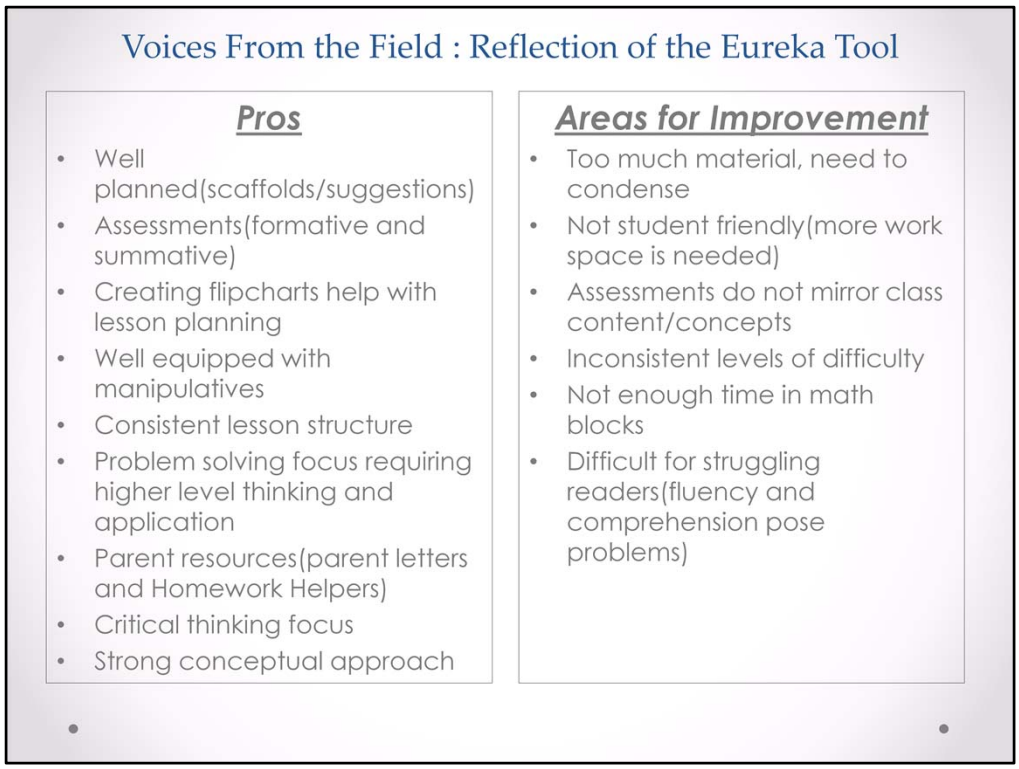
Students are encouraged to share their thought processes and explain what they do and how they do it. The clear overlays are a creative manipulative allowing students to concretely see and prove angle relationships.



8th grade used their knowledge of lines, angles rotations, reflections, translations, and transversals to create their own cities.

Real world application projects like this are a great way to transfer information, apply , and create. Projects like this cognitively challenge students to move to the hierarchies in Blooms Taxonomy while providing opportunities to develop 21st Century skills: creativity, collaboration, communication, and critical thinking.

Video



Feedback from teachers through curriculum survey (summarized)

A strong curriculum brings clarity to a school's endeavor; it has practical, intellectual, and philosophical benefits – and leaves teachers room for professional judgment and creativity. ~Diana Senechal

Thank you to all the teachers who have been a part of this process! And thank you to our consultants too!

Thank you